AMENDMENTS TO THE CLAIMS

The text of all pending claims, (including withdrawn claims) is set forth below. The following listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method of providing humidity to an electrolyte membrane of a fuel cell, said membrane running between a cell anode area and a cell cathode area, comprising ~~the steps~~:

extracting humidity from a first fluid flowing from one of said anode and cathode areas, and

charging a second fluid flowing into said one of said anode and cathode areas with said humidity,

wherein ~~routing~~ said first fluid ~~flowing from said one of said anode and cathode areas~~ is routed along ~~an opposite~~ a first side of a membrane pervious to said humidity, and

wherein ~~to~~ said second fluid ~~flowing into said one of said anode and cathode areas~~is routed along a second side of said pervious membrane, said second side being opposite to said first side, ~~being pervious to said humidity such~~ that said humidity is exchanged between the first fluid and the second fluid via ~~passes through~~ said pervious membrane~~, and~~

~~discharging said fluid flowing from one of said anode and cathode areas~~.

2. (cancelled)

3. (currently amended) The method according to claim 1, wherein said first fluid ~~flowing from one of said anode and cathode areas~~ and said second fluid ~~flowing into said one of said anode and cathode areas~~ comprise one of a same, opposite, and cross-current-routed direction of flow.

4. (original) The method according to claim 1, wherein said fuel cell comprises a plurality of fuel cells each comprising separate channels for accommodating flowing fluid, said plurality of fuel cells combine to form a fuel stack, and each of said plurality of fuel cells comprise a dehumidification unit.

5. (original) The method according to claim 4, wherein a separate membrane section pervious to humidity is assigned to each cathode area of each of said plurality of fuel cells.

6. (previously presented) The method according to claim 1, wherein said fuel cell comprises a plurality of fuel cells each comprising separate channels for accommodating flowing fluid, said plurality of fuel cells combine to form a fuel stack, and each of said plurality of fuel cells comprise a dehumidification unit.

7. (original) The method according to claim 6, wherein a separate membrane section pervious to humidity is assigned to each cathode area of each of said plurality of fuel cells.

8. (original) The method according to claim 3, wherein said fuel cell comprises a plurality of fuel cells each comprising separate channels for accommodating flowing fluid, said plurality of fuel cells combine to form a fuel stack, and each of said plurality of fuel cells comprise a dehumidification unit.

9. (original) The method according to claim 8, wherein a separate membrane section pervious to humidity is assigned to each cathode area of each of said plurality of fuel cells.

10. (currently amended) A fuel cell, comprising:

- a cathode area,
- an anode area,
- an electrolyte membrane;

- an inflow line for accommodating fluid to one of said cathode area and anode area,
- an outflow line for accommodating fluid from said one of said cathode area and anode area, and
- a humidity exchanger functionally associated with one of said cathode area and anode area and positioned along one of said inflow line and out flow line, said exchanger ~~providing~~ being configured to provide fluid humidification ~~of fluid supplied to said one of said cathode area and anode area~~ by extracting humidity from fluid flowing from one of said anode and cathode areas, and charging fluid flowing into said one of said anode and cathode areas with said humidity, wherein said humidity exchanger comprises a humidifying and dehumidifying zone separated by a humidity pervious membrane, and wherein said inflow line is positioned in said humidifying zone and the outflow line is positioned in said dehumidifying zone.

11. (cancelled)

12. (previously presented) The fuel cell according to claim 10, wherein same materials are used for said electrolyte membrane and said humidity pervious membranes.

13. (original) The fuel cell according to claim 12, wherein said electrolyte membrane and said humidity pervious membrane combine to form different portions of a single membrane.

14. (original) The fuel cell according to claim 10, further comprising a plurality of fuel cells combined to form a stack, wherein each of said plurality of fuel cells has a separate humidity exchanger connected to said cathode area of each of said plurality of fuel cells.

15. (original) The fuel cell according to claim 14, wherein at least sections of one of said inflow and outflow lines of each of said plurality of fuel cells run through an adjacent one of said plurality of fuel cells.

16. (original) The fuel cell according to claim 10, further comprising a plurality of fuel cells combined to form a stack, wherein each of said plurality of fuel cells has a separate humidity exchanger connected exclusively to a cathode area of each of said plurality of fuel cells.

17. (original) The fuel cell according to claim 16, wherein at least sections of one of said inflow and outflow lines of each of said plurality of fuel cells run through an adjacent one of said plurality of fuel cells.

18. (previously presented) The fuel cell according to claim 10, further comprising a plurality of fuel cells combined to form a stack, wherein each of said plurality of fuel cells has a separate humidity exchanger connected exclusively to a cathode area of each of said plurality of fuel cells.

19. (original) The fuel cell according to claim 18, wherein at least sections of one of said inflow and outflow lines of each of said plurality of fuel cells run through an adjacent one of said plurality of fuel cells.

20. (original) The fuel cell according to claim 12, further comprising a plurality of fuel cells combined to form a stack, wherein each of said plurality of fuel cells has a separate humidity exchanger connected exclusively to a cathode area of each of said plurality of fuel cells.

21. (original) The fuel cell according to claim 20, wherein at least sections of one of said inflow and outflow lines of each of said plurality of fuel cells run through an adjacent one of said plurality of fuel cells.

22. (original) The fuel cell according to claim 13, further comprising a plurality of fuel cells combined to form a stack, wherein each of said plurality of fuel cells has a separate humidity exchanger connected exclusively to a cathode area of each of said plurality of fuel cells.

23. (original) The fuel cell according to claim 22, wherein at least sections of one of said inflow and outflow lines of each of said plurality of fuel cells run through an adjacent one of said plurality of fuel cells.